From: Shatz, Richard [mailto:RShatz@geiconsultants.com]
Sent: Monday, November 22, 2010 2:27 PM
To: Groundwater Elevation Support
Subject: CASGEM guidelines comments

I have read the documents and have some comments for your consideration.

Groundwater Elevation Monitoring:

General comments. Can this document be provided to the Monitoring Entity, (in Word) to allow them to use this as a general format tool with which to create a monitoring plan and protocol.

1) Pg 1, Selection of Wells, groundwater contouring of just monitoring wells may miss groundwater pumping depressions by not using production wells.
2) Pg 2, 4th paragraph, please provide the recommended number of wells per square mile, to keep the document uniform with units given in the preceding paragraphs
3) Pg 12, 1st paragraph, "The use of airline or flowing-well methods should not be needed……" Reword sentence to "Air-line measurements are not an acceptable method for water level measurements. Flowing well methods should not be needed in most basins."
4) Revise Well Data, Table 4 as shown in the attached sheet.
5) Pg 18, Guidelines for Measuring Water Levels, 1st paragraph. Insert after first sentence "Note whether there was a pressure release or vacuum when the cap is released as this may indicate whether the water level is being drawdown by another nearby well or that the water surface may not be fully recovered. If pressurized, wait approximately one hour to allow the piezometer head to return to a static level."
6) Pg 18, Guidelines for Measuring Water Levels, for all of the sections below add to 'Before Making a Measurement: Place your ear near the well casing and listen to detect cascading water, and record on the field sheet whether this is an issue which may cause a false level.
7) Pg 21, Table 6, expand Measurement Method section to include all types of devices listed in this report.
8) Pg 22, Electric Sounding Tape Method. Revise first sentence as there are far more advantages of using the electric sounding type device.
9) Pg 22, Electric Sounding Tape Method, Bullet list, forth bullet. Steel tapes are not that common and making this a requirement may overwhelm the manufacturer. Can DWR provide annual steel tape calibration, at least for the first couple of years.
10) Pg 22, Electric Sounding Tape Method, Making a measurement, item 3. Last sentence. "If more than two readings are taken, record the average of all reasonable readings." Replace sentence as "reasonable measurements" may not make sense if the well is being drawdown or is recovering. If water levels are consistently deeper note drawdown measurement on field forms or if water levels are consistently rising then note recovering water levels on forms.
11) Pg 26, "some of the disadvantages of automated monitoring include", after final pullet, Add "If data is not retrieved in an appropriate time, data may be lost.

Procedures of Monitoring Entity Reporting

General Comments; Will DWR provide the Monitoring Entity a list of DWR monitored wells so that they may readily ascertain the number of wells that they may have to monitor should DWR funding preclude their monitoring.

1) Pg. 14 , Monitoring Plans, last sentence. Modify last paragraph to “The Monitoring Entities shall update their monitoring program every 5 years and resubmit a copy to DWR.”
2) Pg 16 Field Methods, last sentence. “However, the DWR guidelines are for internal use…..” Revise sentence to allow use of protocol by participating agencies.
3) Pg 17 third bullet, State Well Number. Some monitoring wells do not have state well numbers. Can you include the process to apply for one.

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State of California | DEPARTMENT OF WATER RESOURCES | California Natural Resources Agency

WELL DATA

State No. _____

District _____

OWNER		STATE NO.
ADDRESS		OTHER NO.
TENANT		
ADDRESS		
TYPE ~~OF WELL~~ ☐ SPECIAL STUDIES ☐ MONTHLY ☐ SEMI ANNUAL ☐ WATER QUALITY		
LOCATION. COUNTY	BASIN	NO.
U.S.G.S. QUAD.		QUAD NO.
¼ ¼ SECTION TWP. RGE		MD ☐ SB. BASE & MERIDIAN H ☐
COORDINATES X: Y:		SOURCE:
DESCRIPTION		
REFERENCE POINT DESCRIPTION		
WHICH IS FT. ABOVE ☐ BELOW ☐ LAND SURFACE.		GROUND ELEVATION FT.
REFERENCE POINT ELEVATION FT.	DETERMINED FROM	
WELL: USE	CONDITION	DEPTH FT.
CASING, SIZE IN.	PERFORATIONS	
MEASUREMENTS BY: ☐ DWR ☐ USGS ☐ USBR ☐ COUNTY ☐ IRR. DIST. ☐ WATER DIST. ☐ CONS. DIST		
CHIEF AQUIFER: NAME	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
TYPE OF MATERIAL	PERM. RATING	THICKNESS
GRAVEL PACKED? ☐ YES ☐ NO	DEPTH TO TOP GR.	DEPTH TO BOT GR.
SUPP. AQUIFER	DEPTH TO TOP AQ.	DEPTH TO BOT. AQ.
DRILLER	DATE DRILLED:	LOG NUMBER:

EQUIPMENT: PUMP, TYPE		MAKE			
SERIAL NO.	SIZE OF DISCHARGE PIPE IN.	WATER ANALYSIS: MIN. (1)	SAN. (2)	H.M. (3)	
POWER, KIND	MAKE	WATER LEVELS AVAILABLE: YES (1)	NO		
H.P.	MOTOR SERIAL NO.	PERIOD OF RECORD: BEGIN	END		
ELEC. METER NO.	TRANSFORMER NO.	COLLECTING AGENCY:			
YIELD	G.P.M. PUMPING LEVEL FT.	PROD. REC. (1)	PUMP TEST (2)	YIELD (3)	

Location SKETCH

N

REMARKS

RECORDED BY:

DATE.

DWR 429 (Rev. 1/09)

Table 4. General well data form (DWR Form 429).